



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicants:	Jonathan N. Howarth and	)	
	Michael S. Harvey	)	
		)	
Serial No.:	10/609,280	)	Art Unit: 1754
		)	Examiner:
Filed:	June 27, 2003	)	
		)	
For:	Highly Concentrated Bromine	)	
	Compositions and Methods	)	
	of Preparation	)	
		)	

---

September 24, 2003  
Sacramento, California 95814

Mail Stop: Art Unit 1754  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

**DECLARATION OF JONATHAN N. HOWARTH**  
**UNDER 37 C.F.R. SECTION 1.132 IN SUPPORT OF PRELIMINARY AMENDMENT**

I, Jonathan N. Howarth, declare:

1. I am employed as senior vice president of technology by EnviroTech Chemical Services, Inc., the assignee of this patent application. I obtained a Ph.D. in physical chemistry from the University of Southampton, England in 1987. I have worked in the field of water treatment chemistry since 1989, specializing in the area of bromine chemistry. This declaration is submitted in support of applicants' preliminary amendment.

2. I am a co-inventor, with Michael S. Harvey, on this patent application. After the patent application was filed, I reread the specification and found that I had made some mistakes or errors in the detailed description of the invention. All of the errors are either computational, equation balancing, or word processing errors, and almost all of the errors are contained in the

examples. All of the errors were inadvertent. All would be obvious to a person skilled in the art of physical chemistry upon a reading of the specification. None of the errors affect the explanation of how to make and use the invention; the specification as originally filed teaches a person skilled in the art how to make and use the invention. Each error is addressed separately below.

3. There are three errors in the discussion of Prospective Example 1 on page 18, lines 15, 17, and 20 of the specification. These errors resulted from a mistake in balancing equation 7. The mistake in balancing resulted in two computational errors in the amounts of 50% hydrogen peroxide and 50% sodium hydroxide. Once equation 7 is correctly balanced, these errors are easily correctible. These errors do not affect the explanation of the method of the first embodiment of the invention because the steps of the method are set forth in the discussion preceding the example.

4. There are several computational errors that resulted from mistakes in the calculation of the percent yield obtained in various examples. These errors occurred in Examples 2, through 8 (Table II, page 32), Example 9 (page 33, line 21), Examples 10 and 11 (Table III, page 39), and Examples 12 and 13 (Table IV, page 62). None of these errors affect the explanation of the methods of the embodiments to which the tables relate. The steps of each method are set forth in the discussion preceding each example.

5. There are two word processing errors that I made when I copied and pasted portions of the text relating to one embodiment into the discussion of a different embodiment. These errors are on page 56, line 12 and page 58, line 1. The error on page 56, line 12, occurred when I copied and pasted a sentence from the discussion of the method of preparing a mixed halogen composition using a solid organic chlorinating agent (a variation of the second

embodiment) on page 42, lines 18-20 into the discussion of the method of preparing a mixed halogen composition using a solid organic chlorinating agent (a variation of the third embodiment) on page 56, lines 11-13. In copying and pasting this sentence, I mistakenly included the phrase “combination of hydrogen peroxide and” on page 56. From reading the description, however, it would be clear to a person skilled in the art that this was a mistake because the method of the second embodiment uses hydrogen peroxide, while the method of the third embodiment does not use hydrogen peroxide (see page 9, lines 10-17; page 19, lines 1-4; and page 52, lines 7-9). I made the same mistake on page 58, line 1, when I copied and pasted a sentence from the discussion of the method of preparing a mixed halogen composition using a solid inorganic chlorinating agent (a variation of the second embodiment) on page 49, lines 21-23 into the discussion of the method of preparing a mixed halogen composition using a solid inorganic chlorinating agent (a variation of the third embodiment) on page 57, line 23 through page 58, line 3. Again, I mistakenly included the phrase “combination of hydrogen peroxide and” on page 58. Again, however, it is clear that this was a mistake because the method of the second embodiment uses hydrogen peroxide, while the method of the third embodiment does not.

6. There are several word processing and computational errors in Examples 14 and 15. On page 63, lines 4, 5, and 9, I inadvertently left out the amounts of the reagents used. On line 4, the amount of 50% sodium hydroxide solution was 60.2g. On line 5, the amount of trichloroisocyanuric acid was 55g. These amounts can be calculated from the other information set forth in Example 14. Moreover, the discussion of Example 15 indicates the amounts that were used in Example 14. Example 15 states that it was performed under the same conditions as Example 14 except for the amount of NaBr (page 64, lines 2-3), and Example 15 further states

that 60.2g of 50% sodium hydroxide solution and 55g of trichloroisocyanuric acid were used, indicating that the same amounts were used in Example 14.

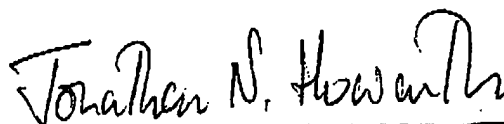
On line 9, the amount of 50% NaOH solution was 5.0g. This amount was inadvertently omitted. It can be calculated from the stated pH of 1.55 that was obtained after the addition.

There are two mathematical errors in reaction yields of Examples 14 and 15 (page 63, line 18 and page 64, line 23, respectively). These values were incorrectly calculated.

7. In the description of the eighth embodiment (the bromine-containing solid compositions of matter), a word processing error was made – the phrase “and in vacuo” was inadvertently left out in referring to the stability of the salt of anhydrous N-bromosulfamate (page 90, item (4), line 8). The mistake is clear, however, as the sentence states “see Example 24” and Example 24 explains that the salt was kept in a vacuum dessicator before determining that it had remained stable for 3 months.

8. I hereby state that all of the statements made in this declaration are true of my own knowledge and that all statements made on information and belief are believed to be true, and further, that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code.

Dated: 23 September 2003

  
Jonathan N. Howarth